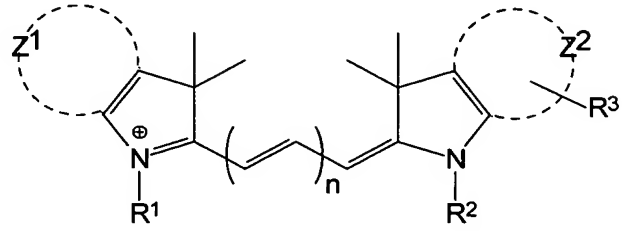
Amendments to the Claims

Claim 1 (currently amended): A matched set of fluorescent dyes comprising ~~at least~~ two or more different fluorescent dyes of formula (I):

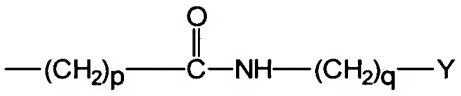


(I)

wherein n is different for each said dye and is 1, 2, or 3;

Z^1 and Z^2 independently represent the carbon atoms necessary to complete a phenyl or naphthyl ring system;

one of groups R^1 and R^2 is the group:



where Y is a target bonding group;

remaining group R^1 or R^2 is selected from $-(CH_2)_4-W$ or $-(CH_2)_r-H$;

group R^3 is hydrogen, except when either R^1 or R^2 is $-(CH_2)_r-H$, in which case R^3 is W;

W is selected from sulphonic acid and sulphonate;

p is an integer from 3 to 6;

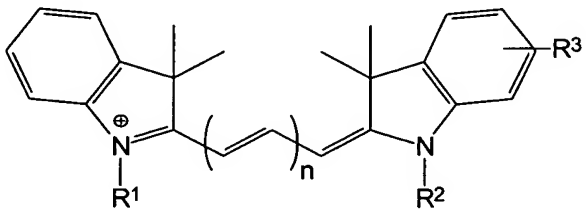
q is ~~selected to be~~ 2 or 3; and

r is an integer from 1 to 5;

and ~~their~~ salts thereof;

~~characterised in that~~ and further wherein when n of two of said dyes differs by +1, one of p, q and r of said two dyes differs by −1.

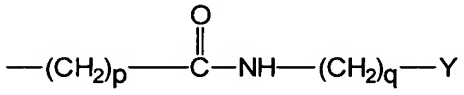
Claim 2 (currently amended): A matched set of fluorescent dyes comprising at least two different fluorescent dyes of formula (II):



(II)

wherein n is different for each said dye and is 1, 2, or 3;

one of groups R^1 and R^2 is the group:



where Y is a target bonding group;

remaining group R^1 or R^2 is selected from $-(CH_2)_4-W$ or $-(CH_2)_r-H$;

group R^3 is hydrogen, except when either R^1 or R^2 is $-(CH_2)_r-H$, in which case R^3 is W;

W is selected from sulphonic acid and sulphonate;

p is an integer from 3 to 6;

q is ~~selected to be~~ 2 or 3; and

r is an integer from 1 to 5;

and ~~their~~ salts thereof;

~~characterised in that~~ and further wherein when n of two of said dyes differs by +1, one of p, q and r of said two dyes differs by −1.

Claim 3 (currently amended): ~~A~~ The matched set ~~according to~~ of dyes of claim 1 or claim 2 comprising at least two different fluorescent dyes wherein ~~according to formula (I) or (II) in which~~:

n is ~~selected to be~~ 1 or 2;

p is ~~selected to be~~ 4 or 5;

q is ~~selected to be~~ 2 or 3; and

r is ~~selected to be~~ 1, 2 or 3.

Claim 4 (currently amended): ~~A matched set according to any of claims 1 to 3~~ The matched set of dyes of claim 1 or claim 2, wherein said target bonding group Y in each dye of the set of dyes is the same and is selected from ~~a~~ the group consisting of maleimido ~~group~~ groups and ~~an~~ iodoacetamido groups ~~group~~.

Claim 5 (currently amended): ~~A matched set according to~~ The matched set of dyes of claim 4 wherein in each said dye Y is a maleimido group.

Claim 6 (currently amended): ~~A matched set according to any of claims 1 to 5~~ The matched set of dyes of claim 1 or claim 2, wherein said salts are selected from salts K^+, Na^+, NH_4^+, or containing R_3NH^+ and R_4N^+ ~~where~~ wherein R is C_1 to C_4 alkyl.

Claim 7 (currently amended): A matched set of dyes ~~according to any of claims 1 to 6~~ selected from the group consisting of:

Set 1

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(1-ethyl-3,3-dimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound I); and

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(1,3,3-trimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound II);

Set 2

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(1-propyl-3,3-dimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound III); and

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(1-ethyl-3,3-trimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound IV);

Set 3

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(1-ethyl-3,3-dimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound I); and

1-(5-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxopentyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(1-ethyl-3,3-trimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound V);

Set 4

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(3,3-dimethyl(1-sulpho-butyl)-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound VI); and

1-(5-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxopentyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(3,3-dimethyl-(1-sulpho-butyl)-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound VII).

Set 5

1-(6-{[3-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)propyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(1-ethyl-3,3-dimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound VIII); and

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(1-ethyl-3,3-trimethyl-5-sulpho-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound IV); and

Set 6

1-(6-{[3-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)propyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(3,3-dimethyl(1-sulpho-butyl)-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound IX); and

1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(3,3-dimethyl-(1-sulpho-butyl)-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound X).

Claim 8 (currently amended): A method for labelling a mixture of proteins in a sample wherein each of said proteins contains one or more cysteine residues, said method comprising:

i) adding to an aqueous liquid containing said sample a fluorescent dye selected from a matched set of fluorescent dyes wherein each said dye contains a target bonding group that is covalently reactive with said proteins; and

ii) reacting said dye with said proteins so that said dye labels said proteins;

~~characterised in that~~ wherein all available cysteine residues in said proteins are labelled with said dye.

Claim 9 (currently amended): ~~A method according to~~ The method of claim 8, wherein said fluorescent dye is a cyanine dye.

Claim 10 (currently amended): ~~A method according to~~ The method of claim 9, wherein said cyanine dye contains a sulphonic acid or sulphonate group.

Claim 11 (currently amended): ~~A method according to any of claims 8 to 10~~ The method of claim 8, wherein said target bonding group is selected from ~~a~~ the group consisting of maleimido ~~group~~ groups and ~~an~~ iodoacetamido groups ~~group~~.

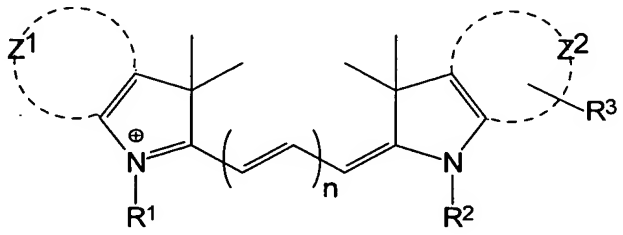
Claim 12 (currently amended): ~~A method according to~~ The method of claim 8, further comprising prior to step i), ~~the~~ a step of treating the protein with a reductant.

Claim 13 (currently amended): ~~A method according to~~ The method of claim 8, wherein said dye is ~~used~~ added in a range of 5 to 200nmol of dye per 50μg of protein.

Claim 14 (currently amended): ~~A method according to~~ The method of claim 8, wherein said labelling is performed at a pH in the range from 6.0 to 9.0.

Claim 15 (currently amended): A method for labelling one or more proteins in a sample, the method comprising:

i) adding to a liquid sample containing said one or more proteins a fluorescent dye selected from a matched set of fluorescent dyes each dye in said set having the formula (I):

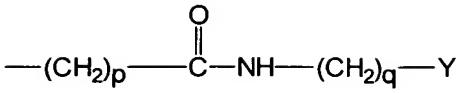


(I)

wherein n is different for each said dye and is 1, 2, or 3;

Z^1 and Z^2 independently represent the carbon atoms necessary to complete a phenyl or naphthyl ring system;

one of groups R^1 and R^2 is the group:



where Y is a target bonding group;

remaining group R^1 or R^2 is selected from $-(CH_2)_4-W$ or $-(CH_2)_r-H$;

group R^3 is hydrogen, except when either R^1 or R^2 is $-(CH_2)_r-H$, in which case R^3 is W;

W is selected from sulphonic acid and sulphonate;

p is an integer from 3 to 6;

q is ~~selected to be~~ 2 or 3; and

r is an integer from 1 to 5;

and ~~their~~ salts thereof;

~~characterised in that~~ and further wherein when n of two of said dyes differs by +1, one of p, q and r of said two dyes differs by −1; and

ii) incubating said dye with said sample under conditions suitable for labelling said one or more proteins.

Claim 16 (currently amended): ~~A method according to~~ The method of claim 15, wherein each of Z^1 and Z^2 represents the carbon atoms necessary to complete a phenyl ring system.

Claim 17 (currently amended): ~~A method according to~~ The method of claim 15, ~~or claim 16~~ wherein:

n is ~~selected to be~~ 1 or 2;

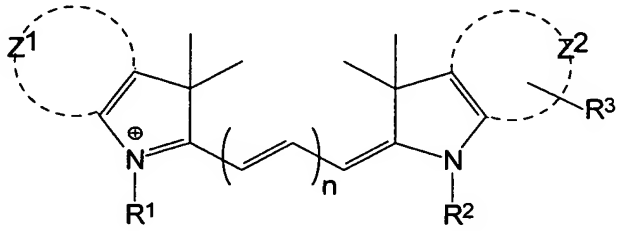
p is ~~selected to be~~ 4 or 5;

q is ~~selected to be~~ 2 or 3; and

r is ~~selected to be~~ 1, 2 or 3.

Claim 18 (currently amended): ~~A method according to any of claims 15 to 17~~ The method of claim 15, wherein said target bonding group Y is selected from ~~a~~ the group consisting of maleimido ~~group~~ groups and ~~an~~ iodoacetamido groups ~~group~~.

Claim 19 (currently amended): A kit comprising a matched set of fluorescent dyes comprising at least two different fluorescent dyes having the formula (I):

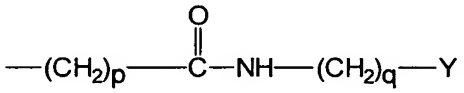


(I)

wherein n is different for each said dye and is 1, 2, or 3;

Z^1 and Z^2 independently represent the carbon atoms necessary to complete a phenyl or naphthyl ring system;

one of groups R^1 and R^2 is the group:



where Y is a target bonding group;

remaining group R^1 or R^2 is selected from $-(CH_2)_4-W$ or $-(CH_2)_r-H$;

group R^3 is hydrogen, except when either R^1 or R^2 is $-(CH_2)_r-H$, in which case R^3 is W;

W is selected from sulphonic acid and sulphonate;

p is an integer from 3 to 6;

q is ~~selected to be~~ 2 or 3; and

r is an integer from 1 to 5;

and ~~their~~ salts thereof;

~~characterised in that~~ and further wherein when n of two of said dyes differs by +1, one of p, q and r of said two dyes differs by −1.